terminals of each Hall sensor element are connected together and to a first terminal of a common voltage source and respective second supply terminals of each hall sensor element are connected together and to a second terminal of the common voltage source so that the common voltage source supplies an operating current for the Hall sensor elements. The Hall sensor elements are operated in the spinning current mode so that the offset voltages of the Hall sensor elements approximately cancel one another out in a revolution so that the Hall signal contributions which actually depend on the magnetic field remain.